

on the floor, and by the flickering light gazed at the fantastic carving of the heathen temple. Nineveh and my brother stole over the scene,—what a contrast! our own simple religion, another contrast! and thanking God for the purer light vouchsafed to me than to these poor creatures, I fell asleep on my hard bed, the sleep that only the tired man knows. This morning we were off before daylight, scrambling down the scores of stone steps that lead to the temple. An old pilgrim, whom we had heard loud in his devotions last night, accompanied us, to enjoy the benefit of our light. While on the rough uneven steps he was silent enough, but as soon as we cleared them and came into the jungle-path, he set up his pipes and chanted hymns in honour of Buddhoo, till our ears rang again. I advised him to keep his breath for his journey, as calculated to be of more use to him than Buddhoo; but on this he sang the louder, and only came to a halt, when, having by his melody raised himself up to the seventh heaven, he forgot mundane affairs, and tripping up over a stone, lay sprawling on the ground. The morning dawned as we emerged from the jungle into the open road, and I then had a fair view of the devout pilgrim; he was an elderly man, but still vigorous; on his head he wore a red pilgrim's hat, which only wanted the cockle-shell to render it fit for Peter the Hermit himself; he had two or three coats on, one over the other, and the same number of trousers, all of different lengths, and B. declared he saw a pair made of *matting* under all. He carried a staff, a bundle, and a gourd. When he began his prayers, which he did if ever we halted, he rang a little bell to call attention, and when he came near us he knelt down and bowed to the ground. I observed, among the relics he had on, a Romish medal of the Virgin, doubtless blest by the pope; a sure protection against falling, as I have often been told by the priests when a boy in Florence.

Today, though Sunday, we were forced to make two long stages, and B. rode the last one. We breakfasted at Peria Colom and slept at Allagamo, before reaching which we got a severe drenching, and B. having no change with him, I have wrapped him in a blanket; and while he is sleeping I close my letter, and shall despatch it by the tappat, which we shall meet tomorrow morning. As we are pushing on to save the Bombay steamer, I shall not be able to write again till I get to Kandy. Till then believe me yours very truly,

E. L. LAYARD.

BIBLIOGRAPHICAL NOTICES.

A History of British Birds, Indigenous and Migratory; Illustrated by numerous Engravings. By WILLIAM MACGILLIVRAY, A.M., LL.D., Professor of Natural History, and Lecturer on Botany in Marischal College and University, Aberdeen. Vols. iv. & v. London: W. S. Orr & Co., Amen Corner, 1852.

WE believe it is now admitted, that whoever would worthily attempt to arrange Birds according to the natural system, must not only attend

to those external characters which were the sole guides of the early systematists, but also to those anatomical and physiological facts which constitute the framework of philosophic zoology; the scalpel and the needle have long since done their work, and of late years the microscope has revealed some valuable characters in the arrangement of the bone-cells, and the relative measurement of the blood-corpuscles. The relative size of the sexes, the food, the habits, whether ordinary or under parental emotions, the mode of nidification, the number of eggs, the appearance presented by the new-born young, their comparative powers of vision, and of terrestrial or aquatic locomotion, are all more or less valuable accessories* to successful enterprise in a field of research so varied and extensive as to tax all the mental and bodily powers of "the close-pent thinker and the busy worker."

An interval of nearly twelve years having elapsed since the publication of the first volume and the appearance of those placed at the head of this article, it may be useful to remind our readers, that in the introduction, the author ably enforces the claims of comparative anatomy to be considered, not as a mere adjunct to, but an integral part of, scientific zoology. In the three first volumes will be found, besides an explanation of the terms employed in describing the external characters, a series of compendious remarks on the skeleton, the trachea or windpipe, and the interior parts, especially the gullet, stomach, intestinal canal and its appendages, which bear undeniable traces of deep research and thoughtful elaboration. Educated for the medical profession, called to the Conservatorship of the College of Surgeons in Edinburgh for many years, the friend chosen by the lamented Audubon to dissect, describe, and illustrate the anatomy of many hundreds of specimens of American birds preserved in spirits for that purpose, the author has brought to the due cultivation of such rare opportunities an active and inquiring mind, unwearied diligence, great perseverance, a delicate pencil and a ready pen. To these high qualifications for the closet and the field must be added, the rare opportunities he enjoyed and improved of visiting many of the choicest localities for the study of the habits of his feathered favourites, more especially the Water-birds, popularly so called, to the elucidation of whose history these volumes are devoted.

True to his early belief in the importance of anatomic structure, the author neglects no opportunity of illustrating its worth and enforcing its practical application. The position of the Cranes (*Gruinæ*) is disputed by many: "although they bear some considerable resemblance to the Herons and Storks, they are clearly not of that family, but more allied to the Bustards and Plovers, their very muscular stomach and double cæca being sufficient to separate them

* So also are Mr. Denny's researches on the parasitical *Anoplura*, and our author gives the value of the Entozoa in his remarks on British Swans. The Guillemot deposits her egg on the bare rocky shelf, the Woodpigeon on an open platform of sticks, the Wren in a dome-shaped nest: a microscopic examination of the egg-shell, as well as the down of young birds, would lead to much curious, if not useful, information.

from the former birds :” and although it is obvious that the Bustards (*Otinæ*) resemble both the Rasores and Grallatores, “their internal structure,” which the author had no means of investigating, “alone can settle the question :” for the same reason, the position of that interesting bird, the Pratincole, cannot be accurately determined : the value of such evidence is pleasingly illustrated in treating of the affinities of the Spoonbill and other birds. The trachea in many of the Ducks (*Fuliginæ*) and Mergansers is generally characterized by an enlargement, and “the voice of the male is more hoarse and less loud than that of the female ;” still, the physiologist will be puzzled to account for the use of the great enlargement of the trachea in the male of the Golden Eye (*Clangula chrysophthalmus*). The trachea in the male of the Black Scoter (*Oidemia nigra*) differs from the simple apparatus of the female only in having the bronchi larger, and resembles that of the female Ducks in general, whereas the tracheæ of the males of *O. perspicillata* and *O. fusca*, its close allies, have a decided enlargement. The differences in the structure of the trachea which occur in some genera are carefully noted in the description of the eight species of Swans which have been found in Britain : in some species it follows the usual course, whilst in others it first enters the sternum, forming a loop in the same manner as in the Crane. The American and European Spoonbills present equally striking differences, and yet the author admits that it would be “injudicious to subdivide these into distinct genera, as the species otherwise agree in all essential respects ;” and in many instances points out the danger of taking some artificial, isolated, and often insignificant character in the construction of genera.

The orders into which the Water-birds have been grouped are mainly constructed with reference to their natural habits : we have *Cursores* or Runners, Cranes and Bustards ; *Tentatores* or Probers, Plovers, Sandpipers, Snipes ; *Acupatores* or Stalkers, Herons, Egrets ; *Latitores* or Skulkers, Rails, Crakes, Gallinules ; *Cribratores* or Shifters, Geese, Swans, Ducks ; *Urinatores* or Divers, Grebes, Loons, Auks, and Cormorants ; *Mersatores* or Plungers, Petrels, Gulls, Terns. Perhaps we cannot do better than transcribe the account of the habits of the typical species belonging to the last-mentioned order :—

“The *Mersatores* are birds of less compact form, lightness and even buoyancy, as well as strength, being essential to their nature. Their plumage is of looser texture and more bulky. Their long wings are fitted for a light, gliding, bounding flight, very unlike the straightforward, laboured, though quick aerial progression of the *Urinatores*. They sit lightly on the water, swim, though not rapidly, but are incapable of diving, and never enter into the deep otherwise than momentarily by plunging or dipping. The larger species are in a measure omnivorous, in so far as regards animal food ; the smaller feed chiefly on small fishes and crustacea. They usually nestle on the ground, laying from three to five spotted eggs ; but some which lay in holes or crevices have white eggs. The young, at first densely covered with down, can walk and run, as well as swim, from the first ; but usually remain for some time in or about the nest, or conceal them-

selves in suitable places. Most of the birds of this order walk very expertly. The males are little larger than the females, and generally the sexes are coloured alike; but the young have more mottled and duller colours than the adult. Their flesh is not esteemed, and none of them have been domesticated." (Vol. v. p. 7.)

As a happy illustration of our author's manner of describing the habits of the typical genera, as far as British species are concerned, we quote the following passage on the *Tringinae*, as remarkable both for its truthfulness and its beautiful imagery:—

"Who, that has often visited the shores of the ocean, wandered along the extended sand-beaches on the margin of which the waves terminate their career in foam and uproar, or visited the muddy estuaries alternately filled and emptied by the periodical floods, has not stood to gaze upon the flocks of tiny birds that were busily picking up their food from the moist ground, or wheeling, as if in sport, their devious flight, now skimming the surface of the water, now rising high above the breakers and then shooting far off to sea, to visit a distant part of the coast? How often, in visiting a sedgy pool surrounded with marshes, have we been saluted, but in no friendly wise, by the shrill clamour of the long-billed and sharp-winged birds which had placed their nests on tufts too remote to be reached! Again, on the long range of heathery hills that we had traversed for many a weary mile, we have come, very unexpectedly to us, and with no welcome from its occupant, upon the nest of the lonely Curlew, which fluttered from among our feet in silence and terror, until reaching a safe distance she began to entice us away from her treasure, by displaying a broken wing and shattered leg—taught, in fact by instinct, to act a palpable untruth. Many pleasant sights have we seen on these solitary rambles—here the four spotted eggs of the Dunlin, so like in colour to the surrounding ground, that you wonder how the eye has distinguished them—here the timid young of the same bird squatted among the short heath—there a flock of Godwits thrusting their bills into the mud; and, again, the gliding and low flight of the beautiful White-breasted Tatler, as skimming by the margin of the quiet lake, it emits its shrill and reiterated cries." (Vol. iv. p. 161.)

To enter into a critical examination of the value of the orders, families and genera would demand greater space than we can command, and a far more extensive acquaintance with the subject than we possess; it could only be superficially treated, whilst common justice demands that it should be done with respectful attention: the changes introduced into the scientific nomenclature are much to be regretted, whilst we believe his legislation in vernacular names is worse than useless. Perhaps few naturalists will agree in accepting the views of our author either in nomenclature or in classification, but such has been the labour and research employed in the work, that in wisely admitting or in wisely attacking them, an extensive and varied acquaintance with the subject is required.

Under these circumstances, in dealing with an original work like this, which has been boldly planned and ably executed, we gladly

turn from the consideration of the ever-vacillating quantities of families and genera, concerning which there is so much diversity of opinion amongst able men, to that of species, which, if their chief characters are accurately described and their habits ably illustrated, constitute a monument of merit far more enduring than any system that ever has been promulgated; for without such imperishable materials the temple of the natural system cannot be built; and it is for the sake of storing up these materials, some smoothed and ready to fit into their proper place, others rough-dressed and requiring the finisher's touch, that we would respectfully invite the student to lay aside all unworthy prejudices against these innovations.

The specific descriptions are in every instance where practicable taken from fresh specimens, they are most carefully elaborated, and often illustrated in part by excellent woodcuts; there is also a short diagnosis of each species acceptable to the general reader, and obviating any inconvenience in going over those minute descriptions, which can only be justly appreciated for purposes of comparing identical or nearly allied species from different quarters of the globe. The descriptions of the habits are given with much care, beauty, and accuracy; many of them must have been written in the field, and in default of personal observation extracts are given from the works of other naturalists; but it is much to be regretted that the title of the work is occasionally omitted, and in almost no instance is there any reference to the page whence the extract has been derived.

In the remarks on the general habits of the order of Tentatores or Probers, most of which are remarkable for the solicitude with which they guard their nests and young, some remarks possessing much interest are made on this habit, as displayed in birds belonging to different orders; but unfortunately the chapter is concluded by strictures on social morality which are foreign to the subject, injudicious in the choice of examples, and unwise in their general application. Neither can we agree with a general law stated in treating of the *Pluvialinæ*, that "No bird that eats entire and live animals has a crop;" whereas *Bulimus acutus* and *Helix ericetorum* are largely eaten by the Rock Pigeons in the Hebrides, whilst the Kestrel, Honey Buzzard, Pheasant, Partridge, and Quail, devour insects with little or no dismemberment. In the pleasing biographies of the Golden Plover and the Green and White Sandpiper (*Totanus hypoleucos*), no mention is made of their peculiar habits during the pairing season,—how the males lower their heads, elevate their wings, and pirouette around each other in presence of the females, with shrill, menacing, and rolling cries; nay more, the latter are very frequently observed to perch on trees and run along the branches with ease: in America, Audubon notes this arboreal habit in the Spotted Sandpiper (*T. macularius*). Several of our native birds which do not usually swim, do so readily when winged and chased into the water, or when they fall into it severely wounded: amongst those which voluntarily take short swimming excursions in tidal pools, we may enumerate the Oyster-catcher and the Redshank; the latter, we are told, casts up the indigestible cases of the larva of the caddice-fly upon which it feeds, as the Owl ejects the

fur of the mouse, and the Rook the husk of the oat. No mention is made of the curious sexual note of the male Lapwing in the breeding season, which resembles the alarm-note of the Missel Thrush, but is uttered in a more abrupt and broken manner. The breeding of the Woodcock in Britain no longer excites great interest: in the excellent communications quoted by our author from the field notes of the Rev. Mr. Smith of Monquhitter and Mr. Burnet of Kembay, many interesting points in its history are pleasingly illustrated. The identity of the beautiful White Egret, shot at Tynningham, East Lothian, in 1840, with *Egretta nigrirostris* of C. L. Bonaparte, is still undetermined, and unfortunately no British localities are given for *Egretta alba*.

The fact that a female Shoveller, *Rhynchaspis clypeata*, was killed in Gullane Loch in July 1828, as recorded in vol. iv. of Sir W. Jardine's 'British Birds,' has been overlooked; else the author would not have stated, that "in Scotland no authentic instance of its occurring at any season has come to my knowledge." It would appear that a very large proportion of the Divers, Mergansers, Golden-eyed Garrots, and Wigeons, killed in winter, in the south of Scotland and in England, are females and young birds. The claims of the Bridled Guillemot, *Uria lacrymans*, to rank as a species are still matter of dispute; but we have here a description of a young bird, and it would appear that the white ring encircling the eye is not peculiar to the old bird as was supposed. The young of the Solan Goose, and all our larger Gulls require three years to attain their perfect plumage, and yet immature birds do not frequent our shores in numbers proportional to their annual increase; they are still more rare in the breeding localities, and in no instance has an immature bird been found paired with an adult. The habits of our larger Gulls—the cries of both adults and young—and the comparative scarcity of the latter, are pleasingly given in the account of the Black-headed Gull, as an important member of the vast congregation of sea birds which assembled to feed on young herrings in the Firth of Forth above Queensferry in December 1837. We are aware that Audubon found, that the young of many species of both land and water birds, in America, migrated during the cold season to a much lower latitude than their parents, and we have seen, that as respects some of our water-birds whose summer haunts are in the Arctic regions, the same fact is observable with us. A more intimate acquaintance with the fauna of the Iberian peninsula and the north of Africa may lead to the discovery of analogous facts in European ornithology; and the question as to the residence of the immature Solan Geese and larger Gulls, can be settled by voyagers in the Mediterranean and adjacent sea.

Our limited space compels us to give only few extracts illustrative of our author's style in describing the habits of his favourites:—

"Beautiful are those green woods that hang upon the craggy sides of the fern-clad hills, where the Heath-fowl threads its way among the tufts of brown heath, and the Cuckoo sings his ever-pleasing notes as he balances himself on the gray stone, vibrating his fan-like tail.

Now I listen to the simple song of the mountain Blackbird, warbled by the quiet lake that spreads its glittering bosom to the sun, winding far away among the mountains, amid whose rocky glens wander the wild deer, tossing their antlered heads on high as they snuff the breeze tainted with the odour of the slow-paced shepherd and his faithful dog. In that recess formed by two moss-clad slabs of mica-slate, the lively Wren jerks up its little tail and chits its merry note, as it recalls its straggling young ones that have wandered among the bushes. From the sedgy slope, sprinkled with white cotton-grass, comes the shrill cry of the solitary Curlew; and there, high over the heath, wings his meandering way the joyous Snipe, giddy with excess of unalloyed happiness.

"There, another has sprung from among the yellow-flowered marigolds that profusely cover the marsh; upwards, slantingly, on rapidly vibrating wings, he shoots, uttering the while his two-noted cry. Tissick, tissick, quoth the Snipe as he leaves the bog. Now in silence he wends his way, until at length, having reached the height of perhaps a thousand feet, he zigzags along, emitting a louder and shriller cry of zoo-zec, zoo-zec, zoo-zec; which over, varying his action, he descends on quivering pinions, curving towards the earth, with surprising speed, while from the rapid beats of his wing, the tremulous air gives to the ear what at first seems the voice of distant thunder."

And again—

"Many a time and oft, in the days of my youth, when the cares of life were few and the spirits expansile, and often too in later years, when I have made a temporary escape to the wilderness to breathe an atmosphere untainted by the effluvia of cities, and ponder in silence on the wonders of creative power, have I stood on the high moor and listened to the mellow notes of the Plover, that seemed to come from the gray slopes of the distant hills. Except the soft note of the Ring-plover, I know none so pleasing from the Grallatorial tribes. Amid the wild scenery of the rugged hills and sedgy valleys, it comes gently and soothingly on the ear, and you feel, without being altogether conscious of its power, that it soothes the troubled mind, as water cools the burning brow. How unlike the shriek of the Heron! But why should we think of it? for it reminds us of the cracked and creaking voice of some village beldame of the Saxon race. The clear tones of the Celtic maiden could not be more pleasant to any one, or perhaps much more welcome to her lover, than the summer note of the Golden Plover to the lover of birds and of nature. As you listen to it, now distant, now nearer and near, and see the birds with short flights approaching as if to greet you, though in reality with more fear than confidence, with anxiety and apprehension, the bright sunshine that glances on their jetty breasts is faintly obscured by the white vapours that have crept up from the western valley, and presently all around us is suffused with an opaline light, into the confines of which a bird is dimly seen to advance, then another, and a third. Who could represent the scene on canvas or card? a hollow hemisphere of white shining mist, on which are de-

picted two dark human figures, their heads surrounded with a radiant halo, and these black-breasted Golden Plovers magnified to twice their natural size, and gazing upon us each from its mossy tuft. It is as if two mortals had a conference on the heath with three celestial messengers—and so they have. Presently a breeze rolls away the mist, and discloses a number of those watchful sentinels, each on his mound of faded moss, and all emitting their mellow cries the moment we offer to advance. They are males, whose mates are brooding over their eggs, or leading their down-clad and toddling chicks among the to them pleasant peat-bogs that intervene between the high banks clad with luxuriant heath, not yet recovered from the effects of the winter frost, and little meadows of cotton-grass, white as the snow-wreaths that lie on the distant hill. How prettily they run over the gray moss and lichens, their little feet twinkling, and their full, bright and soft eyes gleaming, as they commence their attempts to entice us from their chosen retreats! In the midst of them alight some tiny things, black-breasted too, with reddish backs and black nebs, and neat pointed wings, which they stretch right up and then fold by their sides. These are Plovers' Pages, which also have their nests on the moor; the mist rolls slowly away, and is ascending in downy flakes the steep side of the corry, whence comes suddenly on the ear the scream of the Curlew,—pleasing too, but to the deer startling.”

How delightful must the perusal of these volumes prove to the pure-minded man, who devotes his leisure hours to intellectual enjoyment in connexion with the wonderful works of nature! Here, he may live his boyhood over again; he may give reins to his imagination and revel in a little world of his own creation, feeling assured it has a true existence to the senses when these are awakened and cultivated for the highest and noblest end of all perception.

Perhaps better selections might have been made; but such as they are, they possess this advantage, that in these days of cheap travelling, their beauty and truthfulness can be easily tested by all who feel interested in the subject, and to whom even a day's release from the carking cares of the mart and the desk, to breathe the free mountain air, is profitable both for body and mind. We believe, that after due consideration, most of the readers of these volumes will agree, that in the valuable descriptions of the habits of many birds, there is a nice perception and striking expression of that mysterious analogy which exists between the physical and the moral world, which leads man to clothe with life and sentiment everything which attracts the attention in the aspect of external nature, bringing all that strikes the senses into unison with all that touches the soul.

We believe, such is the author's essentially truthful nature, that a more extensive acquaintance with the British and Continental Museums, with the literature of the subject, and with other men of like pursuits, would have materially influenced those peculiar views in classification and nomenclature, which have been developed by research and patient study under the comparatively limited advantages which he enjoyed.

The student may perhaps object to the detailed account of the habits, but if he would attentively investigate the interesting subjects of migration, nidification, singing, local and geographical distribution, he will gratefully acknowledge all that has been written. Stript of those lengthened descriptions which the student can alone appreciate, yet ornamented with the striking diagnosis already provided, and enriched with foot-notes illustrating the progress of the subject, a second, cheaper, and condensed edition of the work would, we believe, attain to an extensive and well-deserved popularity. Wilson, Audubon, Waterton and others have enriched our literature with contributions which are read and welcomed by every class in the community, and we believe that in due time the name of MacGillivray will stand in the foremost rank.

The mournful story of their gifted author will serve to heighten their interest in every feeling heart. The publication of the first three volumes proved a bad speculation, involving the author in pecuniary liabilities, and compelling him to severe labour in support of a large family; death entered his home; his health sunk under accumulated distress and labour; struck by a mortal disease which the milder climate of Devonshire failed to alleviate, last summer the once sturdy wanderer of the wild hills of Scotland returned home to die. As a controversialist, we would cover his faults with the mantle of charity; perhaps he has often been more sinned against than sinning: as a valuable writer in geology, botany, and some departments, especially the mollusca, of zoology, he is very favourably known, but it is as the author of 'British Birds' that his name will go down to posterity. His dying effort was to finish it for the press, to put the keystone to a long career of zealous devotion to science, bequeathing to the naturalist a legacy of which his country may well be proud,—to all men the precious example of an earnest life.

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

February 25, 1851.—R. H. Solly, Esq., F.R.S., in the Chair.

Mr. Gould directed the attention of the Meeting to two Hybrid Birds, concerning which he read the following letter, which had been addressed to Mr. B. Leadbeater, F.Z.S.

“Cottimore, Walton-on-Thames, December 17, 1850.

“SIR,—With reference to the bird which you now have of mine to preserve, I will tell you all which I have ascertained concerning it. It was shot at Henley Park, in the county of Surrey, by the keeper of H. Halsey, Esq., on a part of his property called the Peat Moor, and not far from the Frimley ridges; a wild tract of country, with a good many black-game upon it. The keeper was shooting pheasants for the supply of the house, and this bird rose on the opposite side of the hedge to that on which he was, on the outside of a large covert: